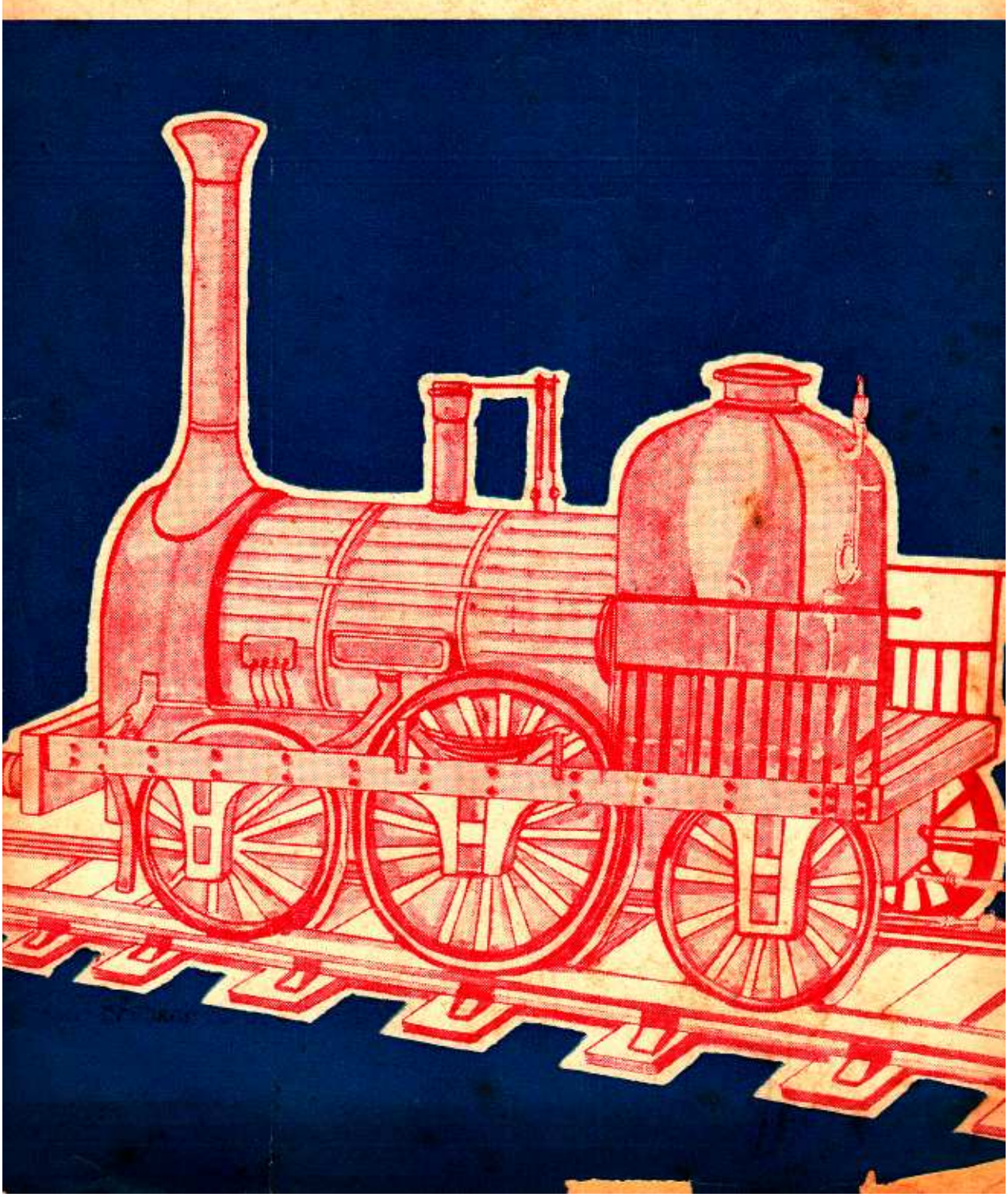
MARCH 1975

RE. 1

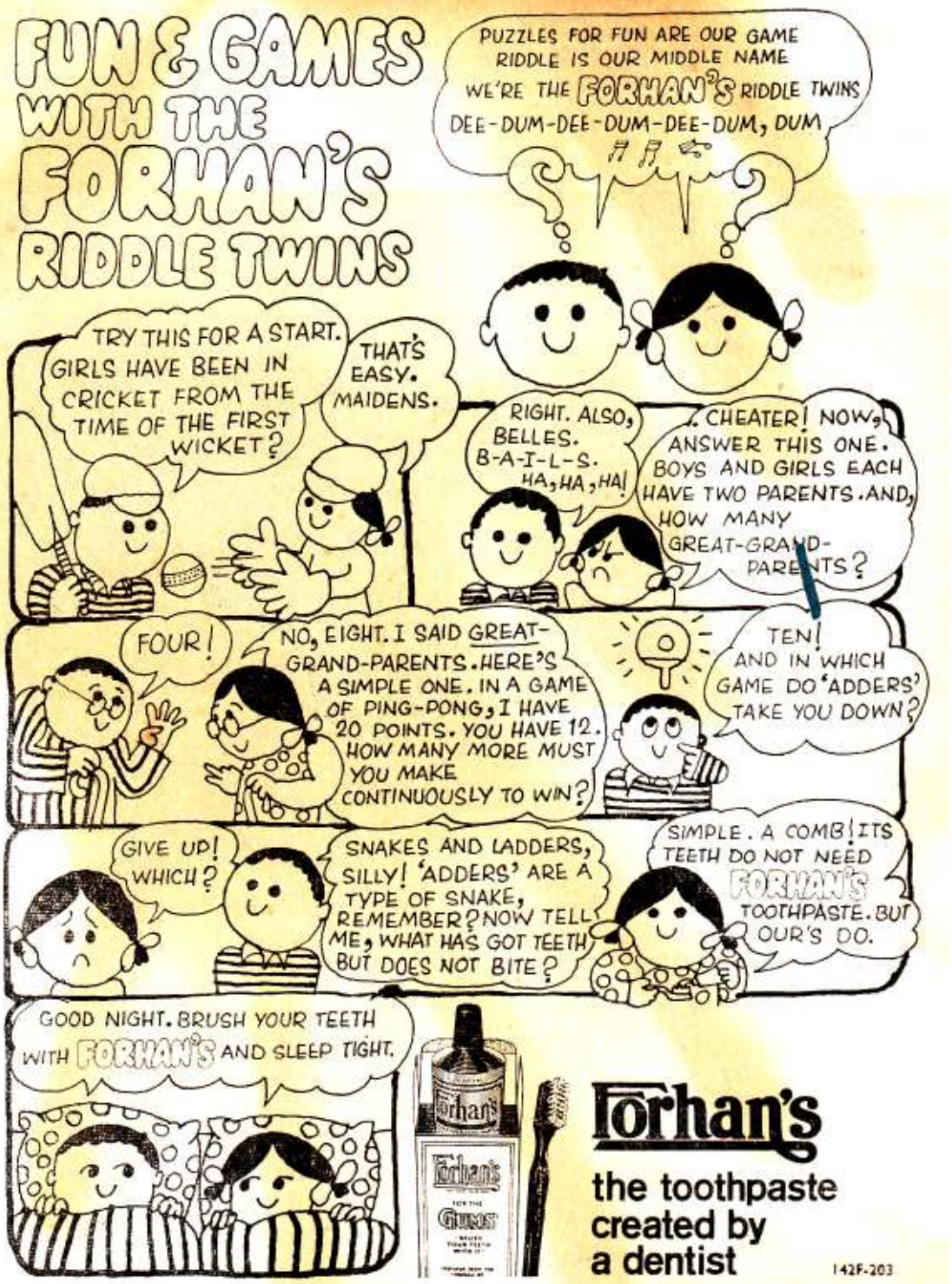
Retd w/ Compts & suggestions TT 22/3

sunshine

THE MAGAZINE FOR TEENS



FUN & GAMES WITH THE FORHAN'S RIDDLE TWINS


PUZZLES FOR FUN ARE OUR GAME
RIDDLE IS OUR MIDDLE NAME
WE'RE THE FORHAN'S RIDDLE TWINS
DEE-DUM-DEE-DUM-DEE-DUM, DUM
TRY THIS FOR A START. GIRLS HAVE BEEN IN CRICKET FROM THE TIME OF THE FIRST WICKET?
THAT'S EASY. MAIDENS.
RIGHT. ALSO, BELLES. B-A-I-L-S. HA, HA, HA!
CHEATER! NOW, ANSWER THIS ONE. BOYS AND GIRLS EACH HAVE TWO PARENTS. AND, HOW MANY GREAT-GRAND-PARENTS?
FOUR!
NO, EIGHT. I SAID GREAT-GRAND-PARENTS. HERE'S A SIMPLE ONE. IN A GAME OF PING-PONG, I HAVE 20 POINTS. YOU HAVE 12. HOW MANY MORE MUST YOU MAKE CONTINUOUSLY TO WIN?
TEN! AND IN WHICH GAME DO 'ADDERS' TAKE YOU DOWN?
GIVE UP! WHICH?
SNAKES AND LADDERS, SILLY! 'ADDERS' ARE A TYPE OF SNAKE, REMEMBER? NOW TELL ME, WHAT HAS GOT TEETH BUT DOES NOT BITE?
SIMPLE. A COMB! ITS TEETH DO NOT NEED FORHAN'S TOOTHPASTE. BUT OUR'S DO.
GOOD NIGHT. BRUSH YOUR TEETH WITH FORHAN'S AND SLEEP TIGHT.
Forhan's
Forhan's
FOR THE GUMS

Forhan's

the toothpaste created by a dentist

142F-203

sunshine

YOUTH MONTHLY WITH A WORLD VIEW
FOUNDED IN 1954

VOL. 21. NO. 8 MARCH 1975

PURPOSE

This Asian Youth Monthly is sponsored by the *Children's Sunshine Concerns*, a registered Non-profit educational Public Trust organized to ensure the all-round welfare of youth and to promote international understanding. SUNSHINE, founded in 1954, aims at fostering among boys and girls, 12-16, a democratic attitude, the service-above-self ideal, a sense of national unity and a world outlook. It also provides them with general knowledge, citizenship training, hints on efficiency and growing up, and appealing English language practice—all the pleasant way. It seeks to serve their age-equals abroad as a dependable bridge of friendship, and to meet the needs and interests of youth everywhere by giving them literature that is educative, edifying and entertaining.

FOUNDER-EDITOR:

Dr. G. S. Krishnayya (1898-1967)
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OUR COVER

Toy train? No. This is what the first commercial railway engines looked like. See pages 12, 13, 14 for more on Trains—past, present and future.

Are you afraid of the Exams?

HOW do you regard the examinations? Do they give you chills up your spine? Do you fear your parents' scolding if you don't do exceedingly well . . . come first or second?

We are too likely to regard examinations as merely times for testing, and to forget that they also have a real educational purpose and can be very helpful in learning. Preparing for examinations makes you take a longer and fuller view, seeing each topic more clearly in relation to the whole.

In later years, when you have finished school and college and are working somewhere, no one will need to remember whether in Std VIII or IX you came first or not. What will count heavily is how much you learnt about learning, and whether you can tell people clearly what you know. This is what examinations are about—they are messages back to you to let you see yourself objectively as others see you.

Outline: *Make an outline of all the material. This is most important. This will not only provide a summary to read through in a hurry, but will also help you to see how the parts are all related to each other. You should not try to learn new material the night before the exams. Instead, go over the outlines slowly, reading them aloud. (You will always remember things more easily if you say them out loud). When you have finished, relax for a while and go to bed early to get up fresh. Remember, over half the work you do for an examination is done in the examination room.*

Pause: *On receiving the paper in your hands, do not be in a hurry to start writing. Read the directions given at the top of the paper very carefully. You must know exactly what you are asked to do. You will get no marks for a good answer that was not required! Then, read through the entire paper quickly. After that, seeing the marks allowed, decide how much time you will give to each question, leaving not less than 15 minutes at the end for a careful check up and complete reading of the answer paper.*

What's the Question? *Read each question carefully and slowly and find out what the main point of the question is. Many pupils, seeing some expected word or phrase, have gone on joyfully, writing at great length, only to find at the end or later, that what they had answered was not what they were asked! Next, jot down a brief outline of the main points to be covered. Organising is not a waste of time. In fact, it will save you precious time while writing, and will show the examiner that you have mastered the subject. Make your answers clear and brief. Each idea should stand out in a separate paragraph.*

Check: *When you have finished writing, make sure that the grammar and spelling are correct. Make sure that your plan stands out clearly. Quite often in the hurry and excitement, pupils omit important words and make very silly mistakes. Remember also that the examiner is not a mind-reader! He will judge your paper only by what you have actually written, and how.*

Good luck—and remember that luck is, as someone has well said, what happens when preparation meets opportunity!

YOUR EDITOR

MICHELANGELO BUONARROTI

greatest artist of all time

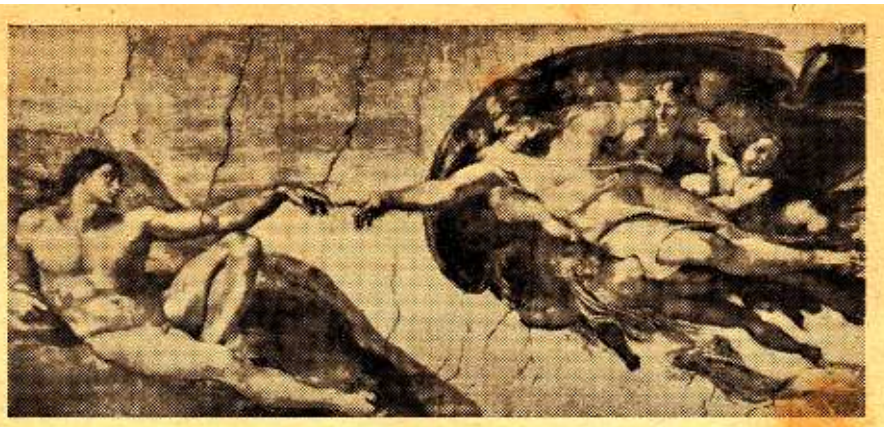
A FRIEND once mentioned to Michelangelo that it was a pity that he had not married. He replied, "I have only too much of a wife in this art of mine. She has always kept me struggling on. My children will be the works I leave behind me. Even though they are worth naught, yet shall I live awhile in them." And indeed, in his magnificent creations, Michelangelo, whose 500th birth anniversary we celebrate this month, lives ever on.

Michelangelo Buonarroti, one of the greatest Florentine artists, was born in the little mountain town of Caprese in Tuscany, north of Rome on March 6, 1475. He was the son of Ludovico Buonarroti, a poor gentleman from Florence, and of his wife, Francesca dei Neri. His artistic talents appeared early in life, so when he was thirteen years old, his father sent him to study painting with Domenico Ghirlandaio, one of the foremost painters of Florence. However, by nature and predilection Michelangelo was more inclined to sculpture, so he joined the Bertoldo school where he worked under Donatello, a famous 16th century sculptor.

Now, in the field of Art, the 16th century was a very exciting time in Italy. It was called the period of Renaissance, a French word meaning rebirth. A great number of very talented painters, sculptors and architects were working vigorously painting fine pictures, designing and building magnificent churches and erecting inspiring monuments to commemorate significant events. The ruling family in Tuscany at this time, the Medicis, were a wealthy family of bankers. Lorenzo de Medici was very impressed by the young Michelangelo and took him into his household. It must be added that the Medici family was greatly interested in Art, and today, their stupendous art collection is housed in the Palazzo Pitti and in the Uffizi Gallery in Florence. Thus, under the wealthy patronage of the Medicis, Michelangelo was free to indulge his creative spirit.

Let us take a look at some of his famous "children". It is said that all Art is but a reflection of the human spirit. How clearly were Michelangelo's indomitable (strong) will and superhuman energy reflected in his sculptures. The youthful, intense hero, DAVID is sculpted in heroic scale. It is 4.10 metres high, emanating superhuman beauty and power. It was sculpted in 1501

The 'Pieta', a youthful work by Michelangelo, carved in the years 1498-1500, during the artist's first stay in Rome.



'The Creation of Adam', a detail of the Sistine Ceiling (1508-12).

to 1504 and placed in the Palazzo Vecchio as a civic-patriotic symbol of the Florentine Republic. Today it stands calm and tense in the Galleria dell'Academia in Florence, presiding over other unfinished works by the artist. Another very noble and beautiful work is the PIETA to be found near the entrance of St Peter's Church in Rome. It depicts the sorrowing Mother Mary holding the body of Christ. The onlooker is struck by the careful and detailed study of the human form and also by the purity of emotion which the 23-year-old artist was able to capture.

There is an interesting anecdote told in connection with his statue of Moses, a fragment for the never-completed tomb of Pope Julius II. Moses, his toes gripping Mount Sinai, is clutching the Tablets of the Law, his eyes ablaze and dazzled by the vision of God who has just visited him. So real was the impact of his creation, that Michelangelo struck the statue with a last mallet blow and cried, "Now—speak!"

Michelangelo never considered himself a very good painter, yet, commissioned by Pope Julius II, greatest and most ambitious of Renaissance popes, he set to work, painting the frescoes on the ceiling of the Sistine Chapel in the Vatican in Rome. Nothing in the history of painting can rival the overwhelming boldness and grandeur of this undertaking. He devised a dramatic plan for the 10,000 sq. feet of plaster, taking his inspiration from Bible stories of the Creation of the World, the Last Judgement, the Prophets, etc. One of the most famous of the major scenes is the Creation of Man. It does not show the physical molding of the body, but the passage of the divine spark, the soul, from God to Man. It took the artist four years to complete the three hundred and forty-three figures executed in rhythmic and glorious profusion on the ceiling. Most of this was done while lying flat on his back on a scaffold high above the ground. Also the technique of fresco-painting was by no means simple. The colours must be ground with water and then laid on wet plaster. As the plaster dries the colour is forever set in lime.

During the last thirty years of his long career, architecture became Michelangelo's main preoccupation. His triumph in this area was the dome of St. Peter's which dominates the Roman skyline. He was appointed architect for the Church, but would accept no payment for his work, for he believed he was working for the greater glory of God. However, he only lived long enough to see the completion of the splendid gilded dome.

During his last years, the long-pent human elements of fervour and tenderness in Michelangelo's nature found utterance (ex-

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This strategic waterway, damaged and crippled by the 1967 Arab-Israeli war (and further blocked in 1971) may at last be reopened. Read about the dangerous work of clearing the Canal of sunken ships and unexploded mines and bombs.

THE SUEZ CANAL

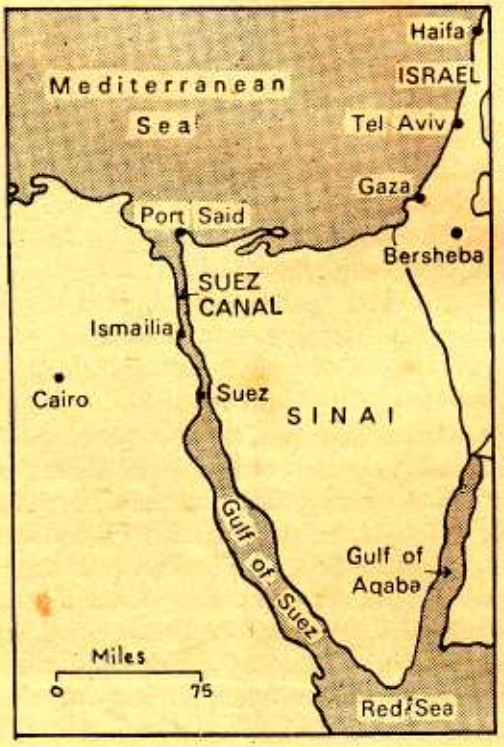
EVER since the beginning of the Arab-Israeli war in 1967, the Suez Canal has been lying in a pathetic state of disuse. In recent years, it was reduced to an almost unrepairable condition, blocked by damaged and sunken ships, choked by desert sand . . . and by bombs and missiles. These last not only made the Canal unfit for navigation but also added to the difficulty and danger of clearing it for traffic. In fact, the task was beyond the capacity of Egypt's engineers, and was largely carried out—nearly completed now—by foreign technicians.

The difficulty of the task can be imagined from the fact that ever since the 1967 war, nothing had been done about the mines and explosives that had piled up in the Canal, or about the damaged ships that were blocking it. Then came the risky job of dredging the accumulated sand and silt which was feared to contain some unexploded bombs and missiles. Now that all this has been nearly completed, the decision to reopen the Canal—or, more correctly, to declare it open to traffic—rests with Egypt.

The Canal belongs entirely to Egypt; President Nasser had nationalised it in 1956. Egypt's income from the Canal, by way of tolls from ships passing through it, used to be over 200 million dollars a year!

Since the Canal is an economical waterway for trade between Europe and Asia, countries of both continents suffer by the closure of the Canal, and are anxiously waiting for its reopening. This has ensured that Egypt would receive assistance in clearing the Canal. In addition, these countries would bring pressure on Israel to withdraw from the territory of Sinai which was occupied by her in the 1967 war. As you will understand from the map, the possession of Sinai enabled Israel to control the east bank of the Canal.

Early last year, Egypt decided to start the work of clearing the Canal. But while the Egyptian army hoped to clear the banks of mines, it did not have the equipment to locate quickly the unexploded bombs, missiles, etc. lying buried in the silt under the water. The Egyptian government approached several countries and finally decided to take assistance from France, Britain and U.S.A.



SAVING IN DISTANCES THROUGH THE SUEZ CANAL

Transportation Route	Distance (in Nautical Miles)		Saving in distance via Suez	Percentage Saving
	Round the Cape of Good Hope	via Suez		
Bombay to Odessa (USSR)	11,814	4,174	7,640	67%
London to Abadan (Iran)	11,300	6,500	4,800	43%
Tokyo to Rotterdam (Netherlands)	14,659	11,192	3,467	20%
Sydney to London	12,962	11,529	1,433	11%

Thus, the clearing work began in April last year. By June, the mines were swept away by American Navy helicopters, and divers and technicians of the U.S., British, French and Egyptian navies were about half way through the job of locating exploding or submerged shells and other explosives from the bottom of the Canal. Egyptian soldiers, using American equipment and working under American-trained Egyptian officers, cleared both banks of the Canal to a distance of 600 feet from the water.

A Dutch salvage firm submitted a plan to clear the Canal of sunken ships. Its plan consisted of raising these ships by the novel method of pumping them full of billions of polystyrene balls through a pipe. (The hollow balls float up to the surface and thus lift the ship off the bottom.) However, this scheme is not 100 per cent reliable; so, a more traditional method was used. Civilian workers, directed by U.S. naval officers, cut into pieces the hulls of 10 sunken ships that were blocking the Canal. The cut-up sections were lifted out of the water by means of a 500-tonne crane and two heavy lift-ships. Thus, in July 1974, for the first time since 1967, a British minesweeper was able to make its way around the wrecks that clogged the Canal, and pass right through the full length of the waterway.

There were still 13 ships which had been trapped in the Canal since 1967. They had to be towed away to Port Said, the northern outlet of the Canal. This work was still being done early in 1975, because much more dredging had yet to be carried out to make the Canal deep enough to be navigable for large ships.

Losses due to Closure

Every country which sent its goods through the Canal has been severely hit by

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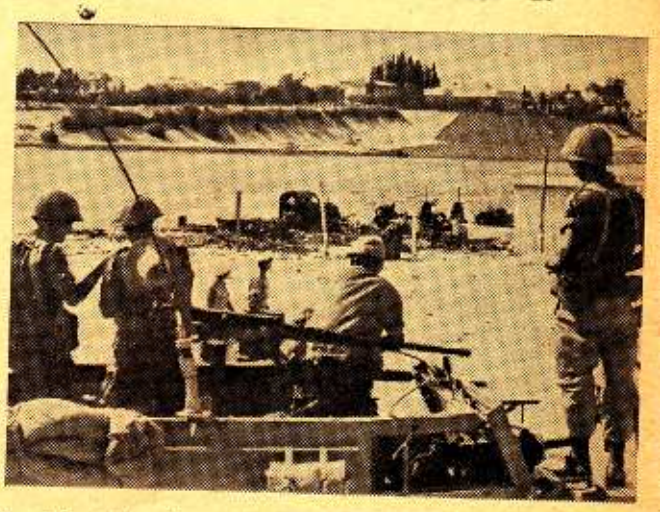

Israeli soldiers in occupied Sinai guard their side of the empty Suez Canal. In the background, Ismailia (Egypt) stands near the Canal's midpoint.

The Other Side of Mr. Sanjana

IT was the Arshad incident that started the whole thing. I mean, who would have thought that Arshad would choose that day of all days to set Mr. Sanjana off? Don't get me wrong. I admire Arshad immensely and I feel, as do most of my classmates that he deserves the nickname 'The Brain' because he has been able to out-wit, out-talk and out-smart all the teachers in our school. All except Mr. Sanjana, of course.

Mr. Sanjana was the strictest teacher in the school and that's something because our school is full of stiff teachers! Mr. Sanjana had a sixth sense about Arshad and was usually able to pour cold water on any of his pranks, even before he had launched on them!

What made me so annoyed, however, was that he had chosen a day when I was particularly anxious for Mr. Sanjana to be in a good mood. You see I had written a poem for the "By You" section in "Sunshine" and I wanted Mr. Sanjana to write a little note saying that the effort was my own. Usually Mr. Sanjana—whenever I approached him on such a mission—cross-examined me so severely that I nearly always became convinced that the article was not mine but copied from somebody else! And now Mr. Sanjana was in such a black mood that I felt I never would be able to gather enough courage to go to him for his signature. And it was the last day to enter my piece in the magazine contest!

Now, that morning Mr. Sanjana had given us an exercise for homework. And even before class had begun, it had been whispered about that Arshad had done something very clever with answer number six. Therefore it came as no surprise to us when Mr. Sanjana said, "Who wants to tackle Question Number Six?" that we saw Arshad raise his hand. "Yes, Arshad." Arshad read the sentence slowly: The character of Hamlet is ———, ——— and ———. The idea was, of course, to supply adjectives like moody restless and guilty. What Arshad said, however, was, "the character of Hamlet is mad, mad and mad." Now this was quite a clever answer in a way. Hamlet did feign madness in one of the scenes of the play and he had fulfilled the teacher's requirements by filling in the space by an adjective. But, of course, he had defeated the purpose of the lesson. Mr. Sanjana's eyes became quite pale and his face looked like a blotched mass of anger. "Arshad Khan," he said in tones of ice, "you will stay in today after class for half an hour and every day for two weeks." We gasped. Poor chap, he really was in for it!

During recess many of the boys slapped Arshad on the back. "Boy, that was clever!" someone said. "Say, wasn't Sanjana mad, mad, and mad!" said somebody else. They really treated him like a hero. But not I. Though I was a great admirer of Arshad's this time I left him strictly alone. I was still thinking of my poem and how I had lost all chance of winning the prize.

That evening when school was over I did not go home. I loitered in the corridor and talked to friends, every now and then looking towards the door to see if Mr. Sanjana was coming out. Presently, I saw Arshad come out, give me a nod and pass by. "Now," I thought to myself. "I had better go in and ask him to sign my poem." So I stealthily approached the classroom. Somebody was inside. It sounded like Mr. Ajwant, who taught us History.

"What did 'The Brain' do this time?" Mr. Ajwant said. This was my first shock, for who would have thought the teachers knew we called Arshad 'The Brain'? But

"Arshad, what on earth are you doing to Mr. Sanjana's scooter?"

that was a minor shock compared to what was to come next. For Mr. Sanjana proceeded to tell Mr. Ajwant the whole story. What really made me gasp with amazement was the fact that Mr. Sanjana was chuckling!

"Arshad has got a good brain," I heard Mr. Ajwant say. "I don't know why he doesn't do something with it."

"Yes," said Mr. Sanjana. "I wish he would put half the energy he uses for pranks into his studies! If only I knew a way of breaking him of the habit . . . ."

At that moment I felt that I should leave, for right there I began to suspect the truth about Mr. Sanjana. I went to have a drink of water and then remembered . . . my poem! Whatever happened I must get a signature for my poem. So I returned and walked boldly into his room.

"W-would you p-please sign this, Mr. Sanjana?" I said in a slightly shaky tone and laid the poem down on his table. Mr. Sanjana picked up my exercise book, read through my poem and signed his name to it—just like that! "This is a good poem, Sharad," he told me. "It is the best thing you have done so far. I hope you win the prize but whether you do or not, keep writing! Never give that up!"

Mr. Sanjana's eyes were soft now and he was smiling. I walked away really confused. Yes, here was something about him that nobody knew! My secret kept revolving round in my head as I cycled home satisfied, my poem tucked away in my bag.

As I passed Mr. Sanjana's home a strange sight met my eyes. Tinkering with Mr. Sanjana's prized possession, his scooter, was Arshad Khan!

"Arshad!" I called out, "what on earth are you doing?" Arshad gave me a quick grin. Then in a confiding tone he told me to come over.

"Do you know something?" he asked me. "Mr. Sanjana, is not such a bad sort after all!"

"Why do you say that?" I asked, keeping my own feelings to myself.

"Well, this evening he didn't tear into me as I thought he would. Instead he just talked. We talked about Shakespeare and Hamlet and a million other things. He asked me what I liked to do in my spare time and I told him that I was a good mechanic and the next thing he was telling me all about his scooter and how he was looking for someone to repair the starter. To cut a long story short, I offered to repair it for him and so here I am!"

"And what about your punishment?" I asked. "Do you still have to stay in after class every day for two weeks?"

"No, that's been cancelled!" said Arshad. "Instead, I have to write a thousand word essay."

"A thousand-word essay!" I repeated. "That's hardly an easy assignment!"

"Don't worry—it'll be quite easy . . . listen to the title . . . "How the Engine of

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Trends in TRAINS

NO one knows just how—or when—the first railway was built. Like the wheel, its origins are lost in the long perspective of time. Perhaps the parallel lines of grooved stone blocks laid by the Greeks to move ships across the Isthmus of Corinth some 2,500 years ago were the first railways. For they had the same properties: They were a special form of road for a special type of vehicle, they were self-guiding and permanent, and they moved both people and goods.

The mines of northern England brought the railways to Great Britain—almost certainly before the sixteenth century was over. The mine railways spread, and we have a 1676 description of how coal was carried from the mines to the rivers by 'bulky carts . . . made with four spiked wheels fitting holes in these (wooden) rails'. On these straight and parallel tracks of timber, he explained, one horse could 'draw five or six cubic metres of coals'.

This was the true secret of the rails, a secret which they still hold and keep to this day, that on them a given tractive force does far more work than it could on any non-specialized road.

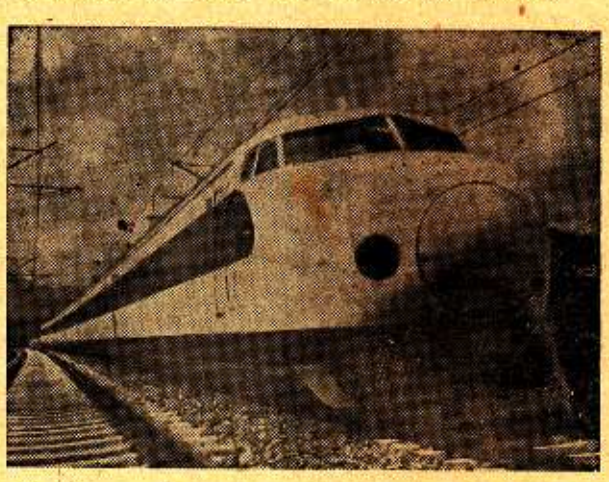
When iron became cheaper and more easily worked it was natural that cast iron plates should be nailed over the wooden rails, to make them last longer. In 1776, angle plates were laid with the wheels running on the flat part and the raised angle preventing the wheels from leaving the track. Any ordinary (farmer's) cart with suitable wheel-spacing could use these tracks, and as the usual spacing was a little less than five feet, this became standard. In this manner grew up the 'standard' gauge of 4 feet 8½ inches used by British Railways and by many others throughout the world!

The first steam locomotive to haul a load along a railway came in 1804. It had one large cylinder and a huge flywheel. It ran on the nine-mile flanged plateway at the Penydarren Iron Works in Wales where it easily hauled a twenty-five ton load. In the next few years many steam locomotives were built, and principally by George and his son Robert Stephenson and others, but the great flowering of the steam age began in 1830.

On 15 September 1830, the railway era began with the ceremonial opening of the Liverpool and Manchester Railway—the first public railway in the world to be worked entirely by steam locomotives. The glory of the occasion was marred by the first accident on a public railway, when a Member of Parliament and a good friend of the railway, was run over by Stephenson's locomotive, the Rocket. He died the same night.

Marc Seguin built the first French locomotive in 1829 and in Germany, the first public railway was opened in 1835 between Nuremberg and Furth. Its only locomotive came from the Robert Stephenson works.

In America, Washington was linked to Baltimore by 1835 and Boston to Buffalo



The Japanese Tokaido express seen here, is the model for new trains which will run at more than 100 m.p.h.

by 1842. Chicago was linked by rail to the East coast by 1850. Because the lack of communication discouraged settlers from penetrating the West and South, in 1850 the U.S.A. Federal Government offered land grants to railways, the first being to the Illinois Central Railroad. From 2,800 miles of railway in 1840, the U.S.A. systems grew to 9,000 miles in 1850, 30,000 in 1860 and 53,000 in 1870. The long runs meant that there had to be facilities for moving about in the train, for eating and sleeping so the open car with platforms at each end became the rule, and G. M. Pullman had produced a convertible seat-cum-sleeping car by 1859.

Under British influence, an Indian railway was opened between Bombay and Thana in 1853, (5 foot 6 inch gauge) and railways quickly became the basis of military control of the British Indian empire and the means by which British manufactured goods could create a vast Indian market. There were nearly 128,000 miles of railway for public use in the world by 1870.

SIDE EFFECTS

Quite apart from the obvious advantages of the railway in providing quick and cheap passenger travel and freeing industry from the need to be sited either near its main market or at its source of raw materials, there were incidental benefits. For example, news spread quickly with the swift carriage of newspapers. Mails were speeded up, the Post Office being quick to take advantage of the new form of transport. The electric telegraph, the first reliable method of sending instantaneous messages, grew alongside the railway and was used largely for railway purposes. Railway timetables demanded uniform timekeeping instead of local time, so railway, and afterwards all other clocks, were synchronized to national standard times.

In Europe the great international trains were largely in the hands of the Compagnie

Trains for businessmen, linking important commercial cities, compete with airlines in speed and comfort.

Internationale des Wagons-Lits, formed in 1876. The Orient Express, the first of these famous trains, began running in 1883 between Paris, Vienna and Istanbul. The second train was the 'Calais-Nice-Rome Express'. Then came Ostend-Vienna (1894). Paris-St. Petersburg (1895) and a host of others. The company still operates these trains today, and now the Orient Express even makes connections from Istanbul to Teheran.

SPEED AND LUXURY

Today there are for businessmen the Trans-Europ Expresses, a series of fast trains linking 100 or so important commercial cities of Europe and running at speeds which equal or beat air travel for city-centre to city-centre journeys. At first these trains were luxurious railcars drawn by diesel engines so that there would be no difficulties from the different forms of electrification in different countries, but now engineers can build electric trains able to run on three or four different systems.

A reservation system linked throughout Europe ensures that no ticket is sold unless a seat is available. The timetables are carefully arranged to suit the businessman, being designed on the principle that he should

be able to travel, have time to transact business at his destination, and return home on the same day. Here, in fact, was a service which started out by considering first what the customer needed instead of what was convenient for the railway to work. The reward has been spectacular financial success.

Many railways have 125 m.p.h. in mind as a suitable express speed. For example in the summer of May 1967 the French *Capitole*, running the 443 miles between Paris and Toulouse in six hours, was timed to cover the 43½ miles between Les Aubrias and Vierzon at 125 m.p.h. Even so, the Paris-Marseilles *Mistral* — which carries twice the weight of the Capitole—maintains a slightly higher average speed—75 m.p.h. against about 74 m.p.h.

In Japan even higher speeds are reached on the Tokaido line, a new railway specially built, with all the latest techniques, for fast running. This line is being extended to give a 425-miles run from Tokyo to Yokohama which the trains will cover, including stops, in 250 minutes—i.e. at 102 m.p.h. Top speeds on the present Tokyo-Osaka section are about 115 m.p.h., but the trains have run up to 150 m.p.h. or so in trials.

Congrats!

TRAFFIC

Freight, rather than passenger traffic, is still the most important reason for the existence of railways. For they are able to haul at considerable speed across country a load equivalent to the cargo of a fair-sized ship, and to do it with a crew sometimes as small as two and never more than a handful.

To gain the full advantages of railways, the load must be at least in the hundreds of tons and be carried considerable distances. Road transport can handle small consignments to many addresses. Where the size of the consignments rises into several tons, however, the railways can compete.

The most useful method of door-to-door transport used by the railways is the 'container'. Basically, this is a box in which shippers can pack all their goods themselves. The box is then carried by road to a railhead where it is put on a train for the trunk part of its journey. At the end of the rail trip it is put on another lorry for delivery. This system has actually been in use on British Railways for something like forty years. The great advantage to the customers is that the goods themselves are never handled by the railway. For the railway, there are advantages in having only one large unit to handle. Containers can be of many sizes and types. Examples are refrigerated containers for meat; containers with special internal fittings to carry glassware, pottery, bicycles, etc., open containers for bricks, roofing tiles, etc.

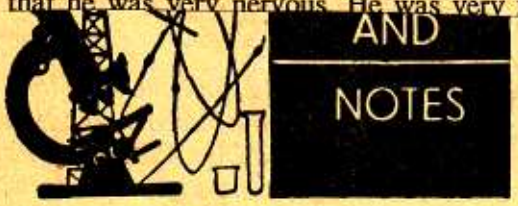
For bulk coal, some Railways have come up with the 'merry-go-round' train. This is a train of large hopper wagons semi-permanently coupled together as a unit. They run from coalfields to bulk users, such as large power stations and, on arrival, run slowly round a loop line without stopping. Apparatus on this loop line causes the bottom doors of the hopper wagons to open at right places and the coal falls into hoppers underneath the rails. The train then runs back to the colliery, where it runs round another loop line. This time, overhead hoppers load them with coal. British Rails' experts have estimated that in this way they could move five million tons of coal a year in only 205 wagons, instead of the 2,000 which are needed today. The principle involved is of economising by designing good equipment and then using it intensively.

India has one of the world's largest railway systems and nearly one million railway men. After the energy crisis it is much in need of new ideas, like these mentioned above to move more freight and passengers with fewer wagons and coaches and with lower fuel consumption.

voice, now relaxed. "Yes, yes, it's all right. You can come up, and I am sorry if I have annoyed you."

He re-lit the light as he spoke, and we saw before us a strange-looking man whose appearance, as well as his voice, showed that he was very nervous. He was very fat but I would never trust a banker. What little I have, is in that box; so you can understand what it means to me, when unknown people force themselves into my rooms."

Holmes looked at Blessington in his questioning way, and shook his head. "I cannot possibly advise you, if you try to deceive



New Method to Produce Hydrogen

Hydrogen has many important uses. You have seen it used for filling balloons. Engineering workshops use it for producing the oxy-hydrogen flame for welding metals. Vanaspati-makers use it for hydrogenating cooking oils — i.e., turning oil into cooking fats or vegetable ghee. Fertilizer plants and chemical plants use it in the large-scale production of ammonia.

Hydrogen is at present produced on large scale mainly by the decomposition of water (H_2O), using electricity to split apart the Oxygen and Hydrogen molecules.

Now the Japanese Government Chemical Industrial Research Institute at Tokyo has developed an economical method of producing hydrogen from water with the help of Calcium Oxide and Iodine, in three stages as follows:

Calcium Oxide + Iodine
→ Calcium Iodide + Oxygen

Calcium Iodide + Water (H_2O)
→ Hydrogen Iodide + Calcium Oxide

Hydrogen Iodide → Hydrogen + Iodine

You can see that the raw materials, except for water, are reclaimed in the process. This makes it quite efficient. Besides, all the byproducts have industrial use.

After the energy crisis, scientists everywhere are seeking more efficient (low-cost, low-energy) processes to produce the materials necessary for our daily life. According

Food Keeps Fresh for Days

Here is something for bachelors (or housewives) who don't want to cook every day. Actually it was devised to serve cooked food to front-line jawans who may be several hours climbing from the nearest kitchen.

The Regional Research Laboratory, Bhubaneswar, has developed a storage 'flask' in which cooked food can be kept fresh for three days. The flask is very simple. It consists mainly of a cylindrical vessel with a lid, a neroprene rubber seal and a valve. The food placed in it first gets 'sterilised' by steam and is then preserved under vacuum. The vacuum is created when the steam let into the flask (which has driven out all the air) cools and condenses into drops of water.

Oxygen on Jupiter?

Scientists of the University of Arizona have reported the discovery of oxygen in the form of water vapour in the atmosphere of Jupiter—the largest planet of our solar system. The discovery was made by a four-man team who got above the clouds in a cargo plane carrying a 36-inch telescope with them. It is now thought that the presence of oxygen may also be the cause of the coloured clouds in Jupiter's atmosphere.

The latest discovery has reopened the question whether life possibly exists on Jupiter. Oxygen, which is actually the third most common element in the Universe, had never before been detected on Jupiter. It remains to be seen whether any more organic compounds, which are essential for life, exist on that planet.

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The most useful method of door-to-do transport used by the railways is the 'co tainer'. Basically, this is a box in whi shippers can pack all their goods thems ves. The box is then carried by road to railhead where it is put on a train for t trunk part of its journey. At the end of t

THE STORY SO FAR: Sherlock Holmes and his assistant Dr. Watson have a visitor—Dr. Percy Trevelyan, a specialist in nervous diseases. Dr. Trevelyan agitatedly tells them of a series of events that has occurred recently in the house where a Mr. Blessington has rented rooms to him for his medical practice. Suddenly, Blessington seems to be in constant fear of attack. One evening a father and son, under pretext of medical consultation, visit Dr. Trevelyan, in Blessington's absence. Their movements are rather mysterious. Blessington returns from his evening walk and on going upstairs makes a startling discovery. "Who has been in my room?" he demands, rushing frantically down the stairs. "Come up and look!"

3—SAD BUT MISLEADING

I PASSED over the rudeness of his language, as he seemed half out of his mind in fear," continued Dr. Trevelyan to Holmes. "When I went upstairs with him, he pointed to several footprints upon the light carpet.

" 'Do you mean to say those are mine?' he cried.

"They were certainly very much larger than any which he could have made, and were evidently quite fresh. It rained hard this afternoon, as you know, and my patients were the only people who called. It must have been the case then that the man in the waiting-room had for some unknown reason, while I was busy with the other, gone up to the room of my resident patient. Nothing had been touched or taken but the entering was an undoubted fact.

"Mr. Blessington seemed more excited over the matter than I should have thought possible, though, of course, it was enough to disturb anybody's peace of mind. He actually sat crying in an armchair, and I could hardly get him to speak. It was his suggestion that I should come round to you, and of course, I at once saw the need for it. If you would only come back with me in my carriage, you would at least be able to comfort him."

Sherlock Holmes had listened to this long story with an attention which showed me that his interest was greatly aroused. As our visitor finished, Holmes got up without a word, handed me my hat, picked up his own from the table, and followed Dr. Trevelyan to the door.

Within a quarter of an hour we had been dropped at his door in Brook Street, one of those dull, flat-faced houses. A young boy admitted us, and we began at once to go up the well-carpeted stairs.

But a strange happening brought us to a standstill. The light at the top was suddenly put out, and from the darkness came the words—

"I have a pistol; I give you my word that I'll fire if you come any nearer."

"This really is too much Mr. Blessington," cried Dr. Trevelyan.

"Oh, then it is you, Doctor!" said the

voice, now relaxed. "Yes, yes, it's all right. You can come up, and I am sorry if I have annoyed you."

He re-lit the light as he spoke, and we saw before us a strange-looking man whose appearance, as well as his voice, showed that he was very nervous. He was very fat and of a sickly colour, and his thin, sandy hair seemed to stand up with his fear. He thrust his pistol into his pocket as we advanced.

"Good evening, Mr. Holmes."

"Who are these two men, Mr. Blessington, and why do they wish to trouble you?" Holmes asked.

"Well, well," said the resident patient, in a nervous manner, "of course it is hard to say that. You can hardly expect me to answer that, Mr. Holmes."

"Do you mean to say that you don't know?"

"Come in here, if you please. Just have the kindness to step in here," the patient said.

He led the way into his bedroom, which was large and well-furnished.

"You see that?" said he, pointing to a big black box at the end of his bed. "I have never been a very rich man, Mr. Holmes,

"What little I have, is in that box."

but I would never trust a banker. What little I have, is in that box; so you can understand what it means to me, when unknown people force themselves into my rooms."

Holmes looked at Blessington in his questioning way, and shook his head. "I cannot possibly advise you, if you try to deceive me," said he.

"But I have told you everything!"

Holmes turned on his heel with disgust and left saying, "Good Night, Dr. Trevelyan."

"And no advice for me?" cried Blessington, in a breaking voice.

"My advice to you, Sir, is to speak the truth."

A minute later we were in the street and walking home. We had crossed Oxford Street, and were half-way down Harley Street before I could get a word from my companion.

"Sorry to bring you out on such a fool's job, Watson," he said, at last.

"It is really an interesting case," I confessed.

"Well, it is quite evident that there are two men, more perhaps, who are determined, for some reason, to get at this fellow, Blessington," Holmes said. "I have no doubt in my mind that both times that young man went into Blessington's room while his partner cleverly kept the doctor from interfering."

"And the mental attack?"

"It is a very easy complaint to imitate. I have done it myself."

"And then?"

"By the purest chance, Blessington was out on each occasion. Their reason for choosing so unusual an hour for a consultation was clearly to make sure that there should be no other patient in the waiting-room. It just happened, however, that this hour was the same as Blessington's, which seems to show that they were not quite sure of his daily routine. Of course, if they had been merely after robbery, they would

at least have made some attempt to search.

"Besides, I can read in a man's eye when he is afraid his own life is in danger. It is certain that this fellow could not have made two such deadly enemies, as these appear to be, without knowing of it. I am sure that he does know who these men are, and that for some special reasons he hides it. It is just possible that tomorrow he will be in a mood to say more.

"Is it not just possible," I suggested, "that the whole story of the Russian and his son was a tale made up by Dr. Trevelyan who has, for his own purposes, been in Blessington's room?"

I saw in the gaslight that Holmes was amused and smiling at this brilliant idea of mine.

"My dear fellow," said he, "it was one of the first solutions which occurred to me, but I was soon able to verify the doctor's tale. This young man left prints upon the stair carpet which made it quite unnecessary for me to see those which he had made in the room. When I tell you that his shoes were quite an inch and a third longer than the doctor's, there can be no doubt. But we may sleep over it now, for I shall be surprised if we do not hear something further from Brook Street in the morning.

Sherlock Holmes' prophecy was soon fulfilled. At half-past seven next morning in the first rays of daylight, I found him standing by my bedside in his dressing gown. "There's a carriage waiting for us. Watson," said he.

"What's the matter?"

"The Brook Street business."

"Any fresh news?"

"Tragic, but misleading," said he, pulling up the blind. "Look at this—a sheet from a notebook: 'For God's sake, come at once —P.T.' (scrawled in pencil.)"

(to be concluded)

A quiz on

KASHMIR

I. How does this State rank with our other states (1) in size (2) in population?

II. Is 'Rajatarangini' a fort or a famous king or a lake or a book? What is its importance?

III. Is the weather here wet or dry, warm or cold in
1. March? 2. May? 3. August?

IV. Name three activities that tourists can enjoy here.

V. What are the main crops grown here?
Mention two agricultural products unique to Kashmir.

VI. Arrange the following places in descending order of altitude:
Srinagar, Pahalgam, Simla, Gulmarg, Mussoorie.

VII. Name four Kashmiri handicraft products.

VIII. What is the special status given to this State under Article 370 of the Indian Constitution?

IX. Is Shamim Ahmed Shamin a Kashmiri poet or a movie star or an M.P.? Why was he in the news recently?

X. Say whether the following statements are *true* or *false*. Give the right answer.
1. The official language of this State is English.
2. The famous gardens here were laid by Emperor Akbar.
3. The Kashmir Valley is also affected by floods.
4. The majority of the people in Ladakh are Muslims.

Send your answers to these questions on an independent sheet, mentioning clearly your name and SR Number. Upto 4 points will be awarded on merit. Last Date: March 30.

A peep into the life of a great humanist poet whose birth centenary falls this month

ROBERT FROST

ROBERT FROST was born in San Francisco, California on March 26, 1875. His father died when he was only ten years old. His mother, a school teacher, took the children to Massachusetts where young Robert, besides attending school, had to take a job to help with family expenses. He worked in a shoe shop, a woollen mill, and also on a farm. It was during his school days that he had his first poems published.

Frost entered Dartmouth College in New Hampshire in 1892, but soon gave it up, taking up instead several odd jobs, including teaching in his mother's school. He later studied classics at Harvard University for two years, but left again before receiving a degree. Both Dartmouth and Harvard later awarded him honorary degrees. Frost also had the distinction of being the only American poet to be awarded that country's highest award for poets, the Pulitzer Prize, four times.

In his poetry, Frost has often used the weather and woods of Massachusetts and New Hampshire as his inspiration. However, it would not be fair to call him a regional poet, since his poems have universal meaning and appeal. He very often begins with a simple experience or situation taken from everyday life, and after deep thought and serious reflection, sets it down with a wisdom applicable to all men at all times. The simplicity of his words and their conversational tone is deceptive: you can read them again and again without exhausting their meaning. "I like to be called a humanist," he said, a humanist being one who has Man and all his doings as his focus of interest. "I'm not a nature poet . . . I have written only two poems without a human being in them, only two."

In the poem quoted below, we will see how Frost combines his love of man and Nature, distilling from his experience in the winter woods a lesson for us all. It might be added that this poem was a particular favourite with Jawaharlal Nehru and also with John F. Kennedy, who always kept it by his bedside, as a reminder that life's challenges never end; not till that great sleep which is death.

STOPPING BY WOODS ON A SNOWY EVENING

Whose woods these are I think I know.
His house is in the village though;
He will not see me stopping here
To watch his woods fill up with snow.

My little horse must think it queer
To stop without a farmhouse near
Between the woods and frozen lake
The darkest evening of the year.

He gives his harness bells a shake
To ask if there is some mistake.
The only other sound's the sweep
Of easy wind and downy flake.

The woods are lovely, dark and deep,
But I have promises to keep,
And miles to go before I sleep,
And miles to go before I sleep.

Add. Note how the simple effect of this poem is not at all spoiled by the quite elaborate

EFFECTIVE LETTERS

by Michael Vodden

LETTER WRITING is an art like the essay or story or any other form of conversation. It is a subject that matters a great deal to everyone, in private life and in business. Even experienced persons sometimes have doubts as to how to address a particular officer or how to end the letter. Some of these special forms are therefore dealt with here.

Writing letters is one of the subjects usually dealt with in school under the heading of composition, but unlike some of the other subjects, it is a necessary skill to possess. Not many of us turn into essayists or story writers but all of us have to write letters.

There is, first of all, the kind of letter we write to a member of our family or to a close friend. This sort of letter should be warm and friendly in tone. It may even make use of a conversational style with short forms (can't, we've, etc) because these forms will help to make the letter sound intimate and chatty, but if short forms are used, they must be used throughout.

There is a second kind of letter written to somebody you do not know personally at all but to whom you are writing not on purely business matters. A letter from you to a teacher at your school is one example, or from your father to the Principal or from one person to another introduced to the writer by a friend but not known to him personally. This kind of letter cannot be as warm in tone as the first type but it must not become formal like the third type.

The third kind of letter is the one written

Addressee	*Beginning*	*Comments*	*Ending*
Close Friend Relation	Dear Granny Dear Uncle Tom Dear Ashok or My dear—	Conversational Friendly Short forms allowed	With love from Yours affectionately followed by first name
Distant Friend Acquaintance Possible Friend	Dear Mr. Smith Dear Principal Dear Dr. Apte	Respectful but not in business style No short forms	Yours sincerely at the start might progress to Yours very sincerely, followed by both names.
Business	Dear Sir Dear Madam Dear Sirs Gentlemen	Heading usual Reference numbers and Date Clear and brief	Yours truly Yours faithfully followed by initials and name

In my youth, at least there was a pleasant convention that in writing to a lady, a man wrote his personal as well as his

for purely business or official purposes. It should be matter of fact in tone and should be as brief and as clear as possible. In business letters, reference numbers and dates of other letters mentioned should be given. The subject is often given as a heading at the beginning of the text below "Dear Sir". The name and address of the person or firm being written to may be given in the letter, usually at the bottom left hand side.

The correct way of writing the date is January 15, 1975, or 15th January 1975 (spoken: "The fifteenth of January nineteen seventy-five) and it is usually placed below or just to the left of the last word in the address.

Next month I plan to give you some examples of letters and I end this month by giving you a table which may be useful for you to refer to and sums up what I have said. I do not say that other forms, which I have not given in the table, are all definitely wrong but those I have given are definitely right, and I would advise you to avoid other forms unless you are absolutely certain that they are normal and acceptable. You will do well therefore to copy this table on a card to keep for future reference.

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dvice to Indian Players

(January '75)

HOW WELL HAVE YOU READ THIS ISSUE?

2 Points: Leonardo D'Souza 2003, Sunil Chopra 9720, D. V. Sunder Raj 8811, Gulshan Warij 9673.

1 Point: Yezdi Talati 7400, Pratap Reddy 9139, P. Bobby George 8009, M. Malini Kini 9958.

A QUIZ ON INDIA

3 Points: Sanjiv Tipnis 7044, Pratap Reddy 9139, Satish Chand 2080, Mita Chatterjee 8756.

2 Points: Sudhir Bafna 9989, Leonardo D'Souza 2003, S. Sudha 9749, P. Bobby George 8009, Ramesh Raghunath 977/36, Ravindra Cavale 1690.

1 *Point:* Sanjay Doshi 1495, Sumit Roy 977/6, Felix Mascarenhas 9800, Bijon Bhattacharjee 9728, Sunil Chopra 9720.

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9 ☞ (The Suez Canal)

the closure of the Canal. The increase in the transit distances (see Table) and times have been especially great for India. As a result, the Europe-India freight charges have gone up considerably, and the goods take much longer to reach their destination.

The longer trade routes have hit South and South-East Asian countries most. For example, the European coffee markets have been lost to Latin America. Similarly, the closure of the Canal affected India and other developing countries in respect of semi-processed and perishable agricultural exports, which should reach their destination within the shortest possible time. Going all the way around South Africa doubles the distance.

According to a study made by the U.N. Conference on Trade and Development (UNCTAD), South-East Asian and East African countries suffered a total loss of 560 million dollars in their export trade with Europe during the three-year period, 1967-70, due to the closure of the Canal. (This amount represents 13 p.c. of the value of their annual exports to Europe.) Their trade partners in Europe also suffered losses. Britain's loss in its foreign trade was estimated at about 20 million dollars per month. The total loss to the world economy during 1967-71 was over 7,000 million dollars.

In the next issue, we shall tell you about the hopeful future of the Canal. . . there are plans to deepen and widen it for larger ships and tankers. How will the change in the world oil situation affect the Canal? India's exports have gone up from Rs 2000 to 3000 crores in 1974-75 Will the reopened Canal accelerate the increases?

Where do we stand in World Hockey?

THE tussle for the World Hockey Cup this month revives some keen questions: How good is India as compared with its challengers, especially Pakistan? Can the oriental, artistic lefeat the new 'power game' of West Germany and Holland? The Indian tour of the Asian ...-Star Hockey Team last October provided some answers to these questions . . .

The brilliant display by the talented Pakistani members of the team revived fond memories of the old glorious days before Partition when British India — India and Pakistan — fielded a combined, invincible team. It also opened our eyes to some realities in regard to our standard of play as compared with Pakistan's.

Firstly, the Pakistani players' efficiency, both individually and in coordination, left no doubts about their supremacy in the game. Their display corrected the impression that they depended largely on rough and tough tactics to prevail over India in the Olympics and the Asian Games. In fact, their game displayed the right blend between speed and control, and their passing and shooting were first rate, making them a tremendous striking force.

After seeing them in action, our former Olympic captain, Kishenlal, said, "At last I am seeing real hockey. I am transported to those good old days and my own days when hockey was a passionately artistic game." Another veteran said, "It is now clear that they are superior to us by at least two goals. It was 50-50 some years ago between India and Pakistan; the scales have now tilted decisively in favour of Pakistan." Yet another observed, "We may have their speed but we do not have their control to go with it. How beautifully Shahnaz combined with Ishlauddin on the right wing!"

Masterly Pakistani Display

The artistic inside-right, Shahnaz, won the hearts and admiration of the best enthusiasts of the game, including our veterans. They were thrilled by his mastery in pulling the ball to the left and cutting through, weaving from side to side. He demonstrated the fine art of passing—to the right man, at the right place and at the right moment. He was also a master of economy in effort, taking the shortest route to the goal.

The way he speedily blended his way **along with the other forwards** was a strong contrast to the usual solo strategy of our own star inside-left, Ashok Kumar—an expert at dribbling—who sometimes keeps the ball too long with himself instead of passing it on to a team-mate.

Jimmy Carr, one of our finest inside-rights of the 50's, was all praise for Shahnaz's "body-swerve all the way"—"the very personification of this vanishing art". "I have seen Babu (K. D. Singh) at his best. He was the equal of Shahnaz in stick-work and scheming but he did not have the same mobility," he observed.

Rashid, often described as the world's best forward, gave an inspiring display which was, indeed, educative for aspiring players to watch. Seeing this sharp-shooting maestro prowling around the D, ready for the 'kill', our skipper Ajitpal Singh, himself an ace centre-half, remarked: "He would strike terror into any goal-keeper."

The artistic Shahnaz

"A goal is all that I care for on the field, be it from a penalty corner or off a combined move," goal-hungry Rashid told an interviewer.

Artistic vs Defensive Technique

Both Shahnaz and Rashid were of the opinion that India and Pakistan, with their emphasis on the artistic technique, are ahead of all others in world hockey, even though West Germany holds the Olympic title and Holland is the World Cup winner. They felt that vigour and stamina, the main assets of the Europeans, could not keep them on top against India and Pakistan whose technique was more skilful, particularly in the body-swerve in which the Europeans were lacking. Rashid lamented that both India and Pakistan missed the Olympic title which went to West Germany in 1972 at Munich, and they attributed this largely to poor umpiring.

Rashid felt that the defensive mentality developed by the European teams, which took to the strategy of the 4-3-3 formation (four forwards, three half-backs and three full-backs, apart from the goalkeeper), took away much of the artistry and dynamism of the game. They felt that the old-style 5-3-2 formation (5 forwards 3 half-backs and 2 full-backs) was better suited to the artistic game as well as to goal-scoring.

The Pakistani players were very happy about the unique opportunity to play Indian teams, to 'cross their sticks' in a friendly contest without the tension of the big matches, and to study each other's techniques. They fondly wished that there could be more such opportunity at regular intervals. This would improve the standards of both the countries, the two best exponents of the artistic technique, and also promote friendship between the two nations. They appreciated the Indian standard and had special praise for our skipper Ajitpal Singh and star inside left Ashok Kumar; any team would be proud to possess such players, they said.

Advice to Indian Players

They also had useful points of advice for the Indian hockey team. Firstly, attack is the best defence and the greatest match-winning strategy. The forward thrust, especially the final thrust to the goal, makes all the difference for a victory, especially under the present international rules of the game. While the Pakistani team has developed this strategy well, the Indian team lags in it. Shahnaz felt that the Indian tendency to scoop too much, keeping the ball in the air, was not good. Hockey being essentially a ground game, it is more paying to keep the ball down and move it fast through short passes. Shahnaz also advised wingers not to dash down the line and hit across the centre but to cut in from the 25-yard line and crack at the goal.

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(Signature of Publisher)

You Ask —We Answer

Are you sometimes puzzled about the why and how of things around you? We shall answer your curiosities in this section. Questions of practical interest and utility, answers to which cannot be found easily, will be given preference.

Send your questions, mentioning your SR No. to: 'You Ask—We Answer', Sunshine, Poona 1.

What is IQ? Why does it differ so largely among human beings?

—Rajesh Gupta 9518, Ratlam

I. Q. or Intelligence Quotient is a measure used by psychologists and educators to express a person's intelligence. It is the ratio between the mental age of an individual and his age in years. Intelligence Tests are made to measure qualities such as judgment, memory and understanding of abstract terms. When a child is given the tests, his score is compared with the average levels and his mental age determined. An 8-year-old whose record matches that of the average 12-year-old is said to have a mental age of 12. His I.Q. is the ratio 12 to 8 or 150. The I.Q. of a child whose mental age corresponds with his age in years is 100. The normal range, in which most people are found, is from 90 to 110.

Many psychologists believe that intelligence is the total of a person's abilities to meet and deal with various situations. These abilities are based on both experience and knowledge and naturally vary with every individual. Hence the I.Q. differs with the individual, and often changes with age.

What is Allergy?

—Rudra Sharma 1883, Raipur

'Allergy' is the name of a diseased condition caused by substances called 'allergens' which are harmful only to persons who are sensitive to them. Milk, wheat and eggs, for instance, are among the most healthful and widely-used foods. Yet these cause certain sensitive persons to suffer from such ailments as hives, headaches, digestive disturbances. Medicine may also produce allergic reactions. Substances that come in contact with the skin, such as fur, talc, wool or certain chemicals can also cause allergic ailments. These substances may cause skin eruptions or other reactions in persons sensitive to them. Feathers, house dust and pollens of various plants—substances that are inhaled into the nose and throat—form one of the most important classes of allergens. The most common allergens are proteins of one sort or another.

How are bats able to see in the dark and not during day-time?

—Ajay Chandwani 9482, Jabalpur

Bats fly only at night and sleep during daytime, hanging upside down like lifeless objects. They are not blind but they have small, weak eyes and depend entirely on their ears to find their way in the air. While flying, bats produce ultrasonic squeaks which are so high-pitched that the human ear cannot hear them. These sound waves strike against objects in the path of their flight and send back echoes to the bats' ears. These echoes give them a kind of sound-picture of their surroundings, thus enabling them to fly skilfully at night or in the utter darkness of their caves.

Even though the mountain top is nearer to the sun, it is cooler than the plains. Why?

—Mohamed Lehry 9307, Madras

Altitude influences temperature. The temperature falls about 3.3 degrees for every 1,000 feet higher in the air. The air is thinner and colder at high altitudes. It is the air-blanket of the atmosphere that keeps the earth from radiating into space all the heat it receives once a day from the sun's rays. Atop the Himalayas this air blanket is hardly 40% as thick as it is at Bombay, so the temperature up there is much lower. Remember the earth is just a ball of stone spinning in icy-cold space.

Entries to the Quizzes should be sent on separate sheets, mentioning your name, age and SR. No. Entries of those disregarding this rule will be disqualified.

Puzzles and Pastimes

Simile Zoo

Each of the blank spaces given below can be filled in with the name of an animal, bird or insect. Can you tell who's who in our simile zoo?

1. Sly as a _____
2. Gentle as a _____
3. Brave as a _____
4. Busy as a _____
5. Dirty as a _____
6. Hungry as a _____
7. Big as an _____
8. Wise as an _____
9. Graceful as a _____
10. As much fun as a barrel of _____

Pretty Bookmarks

Don't throw away your old greeting cards. You can make beautiful bookmarks for your self and your friends.

Method: Cut any part from a colourful picture. Then take thick card paper and cut it in the shape of the picture making it about ¼ inch larger than the picture all the way round. Paste the picture on the paper you have just cut, leaving the ¼ inch frame all round the picture. Paint the edges to make a bright border.

What Am I?

I have a foot, but cannot walk;
A head, but cannot think.
I'm full of springs, but no one comes
To me to get a drink.
Some houses have but one of me,
And others quite a few.
I never change, yet every day
I must be made anew.

(Answers on p. 33)

Line Puzzle

There are 49 crosses in this diagram. Now try to cut through all of them in 12 straight lines beginning and ending at E.

(Names of the first five senders of the correct solution will be published.)

A Simple Card Trick

Divide the cards into two packs, putting the odd ones in one pack and the even ones in the other. Now place one pack on the other. Fan the cards out, facing the audience. The trick is that you can allow anyone to pick out any card, and you will guess which card it is.

Method: Note which half it was taken from. Fold up the pack, keeping the other half on top. Raise a few cards and ask the picker to put his card back there. You will easily be able to guess the chosen card as it will be the only odd card among the evens or the other way about. Even if you shuffle the pack a little, it is not likely to get mixed.

JAPAN

BY YOU

WHO are all these tall, big-nosed people?" the Japanese asked when a Portuguese ship put ashore near Nagasaki in 1543. A Chinese passenger from the ship picked up a stick and scratched out an answer on the sand. "These men are traders from south-west Barbary. They know something of court etiquette but have no manners. They eat with their hands instead of using chopsticks, and they are unable to understand written characters. They roam hither and yon, bartering what they have for what they do not have. Nevertheless, they are a harmless sort of people."

Now, four centuries later, Europeans are asking questions about the Japanese visitors—and are finding answers in some startling facts. From after the second World War, with an initial push from the United States, Japan has been taking over the market in both the U.S.A. and Europe. Europeans may complain about Japan's ungentlemanly entrance into the European market, yet, they readily buy Japanese motor-cycles, cars, cameras, radios, televisions, watches and a million other things.

But how have the Japanese, within a meagre span of 30 years, spread their goods to all corners of the world? Their incomparable enthusiasm and zest for work; their undying energy—these are what made the Japanese what they are today. For one thing they work six days a week for a full 8-hour day. From post-war ruins, 30 years ago, they built up a society to be admired, and at the same time they extended their influence to the great western continents. Their industrial expansion was not by luck but by hard and diligent effort and by attention to details: many Japanese businessmen in different parts of the world spend all their time gathering financial and market information.

Maybe we in India can also follow their example and become a recognizable power in the world.

—*Vivek Nijhawan* 977/30, Poona
(1 Point)

THE SNAKE DOCTOR

SOMETIMES truth is stranger than fiction. Here is a story my grandfather once told me. This happened in his village. . . .

On the west coast of India, most of the villages are bordered by dense forests. where crawling and creeping creatures are not rare. People were often bitten by snakes, so every village had a Snake Doctor.

In one such village there lived a Swamiji who was famous for his cure for snake-bites. He was well-known and well-respected throughout that part of the land. Some young men, however, did not have faith in him and wanted to test him. One day five of them decided to try the Swamiji. One laid himself on a bamboo stretcher and the other four covered him with a grass mat and a cloth and carried him on the stretcher to the Swamiji's. house. "Our friend has been bitten by a very poisonous snake," they told the Swami. "Please help us."

The Swamiji examined the patient and replied very seriously, "It's very sad, your friend has little hope of survival."

Thinking that they had fooled the doctor the young men burst out laughing. But their laughter soon ceased when they saw that their friend's body was indeed quite blue with poison. He had really been bitten by

a snake, which had hidden itself inside the bamboo in the stretcher. Now they greatly repented their foolish deed and begged the Swamiji to save their friend.

The Swamiji was a wise man. He had pity on the young lads. The only way to save the man was to summon the snake and make it suck out the poison from the wound. Doing this would mean the snake would die. But the Swamiji wanted neither the lad nor the snake to die. After a few minutes of meditation, he arranged seven pots, filled them with milk, turmeric, and some other ingredients. He then sat down, closed his eyes and remained silent for a few minutes. Then he chanted some mantras and just as he did so, the snake appeared from the bamboo swaying its hood angrily. It slowly went up to the unconscious patient, inserted its fangs into the wound and sucked out the poison. Soon after, it dipped its hood into the first pot, then the second and so on up to the seventh. The poison had no effect on it and the snake slithered away peacefully. The Swamiji opened his eyes and very soon the young man recovered.

DV VOTI

(January 1975)

Prize Winners:

1st Prize: *Probir Saha*, Berhampore

2nd Prize: *Sudha Srinivasan*, Madras

3rd Prize: *Prafulla Jacob*, Bombay

5 Camel Consolation Prizes:

Jaikishen Rajan, Hyderabad, *Katherine Chiu*, Darjeeling, *Mel Pereira*, Bombay, *Mustafa Patrawala*, Bombay, *Mahesh Zala*, Poona.

10 Camel Certificates:

Jyoti Sood, New Delhi, *Chandra Shekhar*, Jamshedpur, *Rajanigandha*, Patna, *Aliakbar Husain*, Sholapur, *Shinny Gupta*, Patna, *Zohar Mithaiwala*, Bombay, *Rajat Biswas*, Calcutta, *Leonard Martin*, Bombay, *Bipul Singh*, Najibabad, *Anupam Khanna*, Poona.

5 Sunshine Consolation Prizes:

Rishma Dhillon, Chandigarh, *Dipika Sethi*, Allahabad, *Sunitha Galada*, Madras, *Peter David*, Deolali, *Azra Tirmizi*, Bombay.

The lads were amazed at the Doctor's powers. Thoroughly ashamed of themselves they once again begged for forgiveness, humbly thanked the Swami and left.

—*Ganesh Raman*, Baroda

7 ☞ (Michelangelo Buonarroti)

pression) in poetry. A pious, accomplished lady, Vittoria Colonna was the chief inspirer of his work. He wrote with labour and much self-correction, flinging himself on the material of language as with overwhelming energy he flung himself on the material of marble. However, sickness and the death of Vittoria Colonna in 1547 left him broken in health and heart.

Michelangelo died on the threshold of his ninetieth year on February 18, 1564. He was buried in the Church of Santa Croce in Florence beside eminent scholars and statesmen of Italy's Renaissance. The three symbolic figures seen sorrowing on his tomb represent sculpture, painting and architecture, and rightly so, for no single artist has left behind work of such magnificence in all these three areas.

11 ☞ (Mr. Sanjana)

a Scooter Works!" I'm really looking forward to writing it."

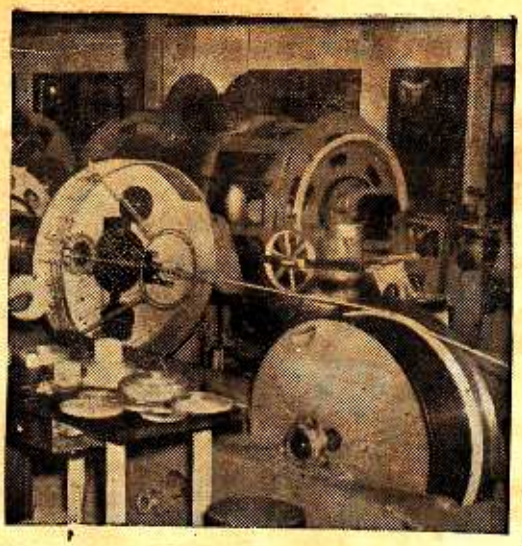
That was a month ago. Arshad's essay was so good that Mr. Sanjana pinned it on the bulletin board for all to read. Arshad has begun to take a greater interest in his studies, I suspect, because Mr. Sanjana has developed a greater interest in him. He is kept so busy he has no time to think up pranks with which to harass the teachers!

As for me, I haven't heard as yet, whether my poem has won First Prize or not. But it really doesn't matter because Mr. Sanjana has told me that my writing is good and that, if I really work at it, one day I'll be a great writer. And is the secret about Mr. Sanjana out? It isn't! Only Arshad and I know . . . and a few others . . . . but we are keeping it to ourselves . . . . .

four "majors" here!

INDUSTRIES

(Answers to February Quiz)



I. Mention two major products of the following sectors: 1. Small-scale Industry 2. Cottage Industry 3. Village Industry.

(1) A variety of products, including some of those produced by large industries are manufactured in this sector. E.g., bicycles, footwear and other leather products, machinery and instruments. (2) Khadi, pottery, bricks and tiles. (3) Gur, khandsari, soap, ropes and fibres and non-edible oils.

II. What are the main raw materials required for: 1. Cement 2. Fertilizer 3. Steel?

1. Lime and clay. 2. Ammonia, Naphtha from petroleum, Potash. 3. Iron and hard coal.

III. Where are the following located and for what products are they noted? 1. Anand 2. Titagarh 3. Dalmianagar

(1) Gujarat. Noted for dairy products (milk butter, cheese, baby food). (2) W. Bengal; paper and jute. (3) Bihar; cement and chemicals.

IV. 1. Mention two places known for their sports goods. 2. Name the goods.

1. Jullundur and Batala in Punjab.
2. Hockey sticks, cricket bats, tennis and badminton racquets, etc.

V. State three products of which India is a leading producer in the world.

Our country ranks among the world's three biggest producers of tea, groundnut, rice and cotton yarn. Our contributions to the world production of these four items are about 39, 29, 25 and 20 per cent respectively.

Our country also ranks among the top producers of sugar and cement.

VI. 1. Name three public sector factories which manufacture consumer articles. 2. What are those articles?

Bharat Electronics, Bangalore—electronic parts for radios and transistors; Hindustan Machine Tools, Bangalore and Srinagar—wrist watches; Hindustan Photofilms, Ootacamund—photographic paper and films.

VII. Mention three major countries: 1. To which we export 2. from which we import goods.

1. Soviet Union, U.K., Japan, U.S.A.
2. U.S.A., Soviet Union, Germany, U.K.

VIII. State three common reasons for underproduction by many industries.

Irregular power supply, shortage of raw materials, squeeze on credit by banks.

IX. State three major purposes sought to be achieved by the goverment's industrial policy.

The most important aim of our industrial policy is self-reliance, mainly by producing goods within our country instead of importing. Another is balanced geographical development by encouraging industries to come up in backward areas. Another is creation of more employment opportunities. Recently, higher earnings from exports have become necessary because of higher import bills.

X. Name three major sources of finance to industries.

The banks give short-term loans. The state financial corporations finance industries in backward areas. The Industrial Credit and Investment Corporation of India and the Industrial Development Bank give long-term loans for machinery. The Unit Trust of India and the Life Insurance Corporation of India buy shares in new companies.

Manager: Don't you know the motto of this firm?
New Typist: Sure, it's 'Push'.
Manager: Now, where did you get that idea?
New Typist: I saw it on the door as I came in.

* * *

A farmer and his college-going son were posing for a picture. The photographer suggested that the boy should stand with his hand on his father's shoulder.

"If you want it to look natural," said the long suffering father, "let him put his hand in my pocket."

* * *

"Now Peggy," the great lady said, "remember that when the Duchess arrives, you must say, 'Your Grace'."

The moment came. Peggy rushed to the door, opened it and then said solemnly, "May the Lord make us truly thankful for what we are about to receive."

* * *

Stout Patient: Doctor, can you suggest a good exercise for slimming?
Doctor: Yes, just move your head slowly from left to right whenever you are asked to have a second helping.

* * *

Teacher: Yes, Sudhir?
Sudhir: I don't want to scare you, but my father said if I don't get better grades, someone is due for a licking.

* * *

ANSWERS
SIMILE ZOO

1. Fox 2. lamb 3. lion 4. bee 5. pig 6. bear 7. elephant 8. owl 9. gazelle 10. monkeys.

WHAT AM I?

A bed

"There are a lot of twins being born these days," said Prabhu, looking up from his newspaper.

"Naturally," said his companion, and added, "the shape the world is in nowadays, the poor kids are afraid to come into it alone."

* * *

New Schoolboy: Why do you call your games-master 'Sulphur'?
Second Schoolboy: Because he flares up at the end of every match!

* * *

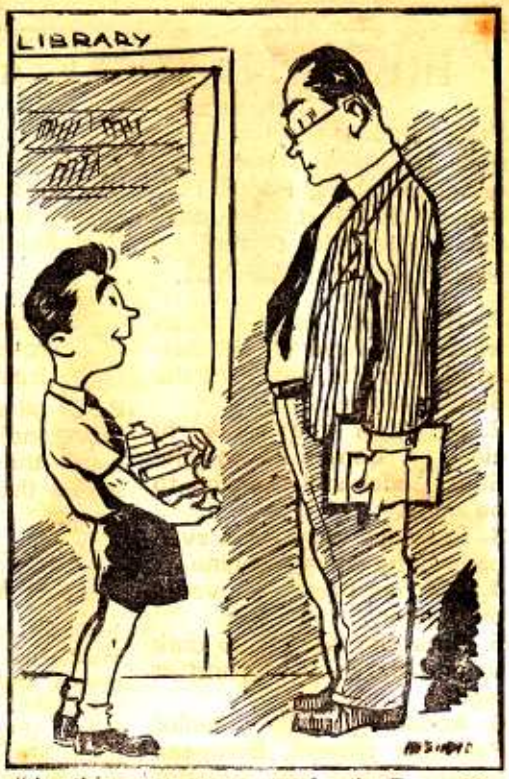
"This hair tonic," the little bald man asked the shopman, "just how effective is it"?

"Sir," smiled the shopman wrapping it up, "only this morning I spilled some on my comb —and now it's a brush!"

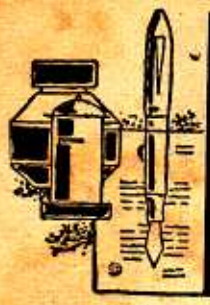
* * *

He flew through the air with the greatest of ease,
But not any more—he missed the trapeze!

* * *



"Anything more you want for the Exams?"
"Yeah — the Question Papers."



pen friends

Only Subscribers can have their names published. Mention clearly your name, age, address, interests, S. R. No., Boy/Girl. Foreign readers may have their names printed, in exchange for 10 (used) commemorative stamps of their country.

Age limit: 18 years.

INDIAN

Cornelius Lakra, (b 14)
St. Mary's School,
P. O. SIMDEGA,
Dt. Ranchi, Bihar
Reading, sports, penfriends.

Rohit Manaktala, (b 13)
C-2 Ordnance Estate,
Raipur,
DEHRA DUN 248008, U.P.
Stamps, reading.

Mohsin Nalwala, (b 17)
169, Saifee Jubilee Street,
2nd Floor, BOMBAY 400003.
Swimming, stamps, penfriends.

Nandita Menon, (g 13)
D 1/4 N.D.A.
Khadakvasla
POONA 411 023, Mah.
Penfriendship, reading, sports.

M. Tahir Bhatkali, (b 18)
C/o Postmaster,
G. P. O.
CALCUTTA 700001.
Stamps, coins, correspondence.

Bharat S. Shah, (b 13)
At & Post KAIYAL,
Ta. Kadi, Dt. Mehsana.
Stamps, F.D.C.s, view cards.

R. Jugraj Jain, (b 17)
26/407, Raja Street,
COIMBATORE, Tamil Nadu.
Stamps, reading, movies.

FOREIGN

Mohan Halwai, (b 18)
D. K. Metal Industries,
Putali Bazar, DHARAN 8,
Koshi Zone, Nepal,
Stamps, F.D.C.s., view cards.

Valena Puskas, (g 16)
3950 SAROSPATAK,
Erdelyi Kollegium,
Hungary.
Music, sport, reading.

Narendra Karwa, (b 18)
C/o Karwa Stores,
Main Road,
BIRATNAGAR, Nepal.
Penpals, movies, reading.

Ashokanthan S. F., (b 15)
9/2, Eachamoddai Road,
Chundikuli,
JAFFNA, Ceylon.
Penfriendship.

HOW WELL HAVE YOU READ THIS ISSUE ?

State whether the following are 'true' or 'false', giving reasons for 'false' statements. Send your answers to "Contests, Sunshine, Poona 1". The entry should be on an independent sheet, mentioning clearly name and SR Number. 2 Points for correct entries, 1 Point for one-error entries. Last Date: **March 31.**

1. The 'Pieta' is a famous fresco painted by Michelangelo on the ceiling of the Sistine chapel.
2. Most of the work of clearing bombs from the Suez Canal still remains to be done.
3. Railways were used even before the steam engine.
4. Life has been discovered on Jupiter.
5. Bats can see in the dark to find their way around at night.
6. According to senior Pakistani players, European hockey teams are superior to the Asian teams.
7. 'Containers' are used to fill kerosene on long distance trains.
8. Of all ships, those going from India to Russia will save the most fuel time when the Suez Canal reopens.

LAST MONTH'S QUIZ

1. False. (Lincoln met her at Westfield.) 2. False. (By repeated exposure they can get habituated to it.) 3. True 4. False. (Plastic wastes in factories are easier to convert as they are more clean. 5. False. (It was used earlier in Europe but given up.) 6. False. (Only in institutions following the co-operative education scheme.) 7. True.